REMARKS

I.   Status of Claims

After the above amendments, claims 16-56 are pending with claims 16, 23, 29, 35, 41, 45 and 49-55 being independent. Minor claim amendments identified below have been made in response to informalities identified in the Office Action. Further, additional clarifying amendments have been made in response to informalities identified by the Applicants. No new matter is added with these amendments. For the reasons described below, the present application is now in condition for allowance and such disposition is earnestly requested.

II.   Status of Claims 51 and 52 in the Office Action

The rejections of claims 51 and 52 are located in paragraphs 34 and 35 of the Office Action, respectively. While the rejections appear to be made under 35 U.S.C 103(a), the claims are listed in paragraph 20 as being rejected under 35 U.S.C 102(b). For the purpose of this response it will be assumed that claims 51 and 52 are rejected under 35 U.S.C 103(a) using the art cited in paragraph 29. If the rejections of claims 51 and 52 are to be maintained, Applicants respectfully request clarification on the status of claims 51 and 52 in a subsequent Office Action.

III.   Objections to the Claims

Claims 45, 49 and 54 have been objected to for containing certain alleged informalities. Specifically, claims 45 and 54 have been objected to because their preambles recite the language "displaying advertisements" without the body of the claims referring to the display of advertisements. Applicants have amended the preamble of claims 45 and 54 to substitute the term "advertisements" with the term "documents," which is a term included in the body of the claims.

Further, claim 49 has been objected to for a typographical error in the preamble. The preamble of claim 49 has been amended to delete the erroneously included language. Applicants have now resolved the objections to the claims identified in the Office Action. Accordingly, Applicants respectfully request withdrawal of the claim objections.

IV.   Rejection of Claims Under 35 U.S.C 112, First Paragraph

Claims 19, 26, 32 and 38 have been rejected under 35 U.S.C. §112, first paragraph, as allegedly failing to comply with the written description requirement. Specifically, the rejection contends that the claims comprise subject matter which the specification fails to disclose, namely the use of a monetary value in determining a cost *to a user* to view a retrieved document. Applicants note that neither amended nor pervious claims 19, 26, 32 and 38 recite or recited "determining a cost *to the user* to view the retrieved document" as suggested in the Office Action. Accordingly, the rejection is based on a feature not recited in the claims. Nevertheless, while Applicants do not agree with the propriety of these rejections, clarifying amendments to claims 19, 26, 32 and 38 have been made. Each of claims 19, 26, 32 and 38 now recites that "the monetary values are prices associated with viewings of..." The specification provides support for the above-identified feature in lines 16-17 of page 40. Accordingly, Applicants respectfully request withdrawal of the rejections under 35 U.S.C. §112, first paragraph.

V.   Rejection of Claims Under 35 U.S.C. §112, Second Paragraph

Claims 17, 18, 20-22, 24, 25, 27, 28, 30, 31, 33, 34, 36, 37, 39, 40 and 52 have been rejected under 35 U.S.C. §112, second paragraph as being indefinite allegedly for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, claims 17, 18, 20-22, 24, 25, 27, 28, 30, 31, 33, 34, 36, 37, 39 and 40 have been rejected because the Office alleges that there is a conflict in the language used in the independent claims and respective dependent claims. The Office Action points out that the independent claims include a feature reciting "an order corresponding to," whereas the dependent claims include a feature reciting "an order based on." Based on the above, the Office Action contends that the claims are indefinite because the language in the claims failed to recite a combination. Accordingly, Applicants have amended dependent claims 17, 18, 20, 21, 22, 24, 25, 27, 28, 30, 33, 34, 36, 37, 39 and 40 to recite that "the order is additionally based on." Accordingly, Applicants assert that the conflict between the recitation of an "order" in the independent and dependent claims is no longer present.

Further, claims 20, 27, 33 and 39 were rejected for reciting the feature "the semantic space" without sufficient antecedent basis. Applicants have amended dependent claims 20, 27,

33 and 39 to delete the word "the" from the language "the semantic space." Accordingly, the language "semantic space" no longer requires antecedent basis.

Still further, independent claim 52 was rejected for including a preamble calling for a system while the body of the claim included language directed to a method. Applicants have amended independent claim 52 such that the body of the claim now includes language directed to a system. Accordingly, the language in the preamble and the body of the claim are now consistent. In view of the above, Applicants respectfully request withdrawal of the rejections under 35 U.S.C. §112, second paragraph.

VI.   Rejection of Claims Under 35 U.S.C. §101

Claims 16-48, 55 and 56 have been rejected under 35 U.S.C. §101 because the claims recite a method of displaying documents but allegedly fail to recite a tangible result. However, the Applicants respectfully disagree with the propriety of these rejections. As stated in the Office Action, a tangible result for 35 U.S.C. §101 purposes is more than just a thought or a computation; it must have real-world value rather than an abstract result. The Office Action goes on to provide an example of a tangible result, namely the storing of retrieved documents in a database.

Applicants assert that the claims already comprise a feature that yields a tangible result. For example, claims 16, 23, 29, 35, 41, and 45 recite *transmitting* for display *the one or more documents*. Further, claims 29, 35, 41, 45 and 55 recite *receiving a search request*. Transmitting or receiving an item is every bit a tangible result as the example identified in the Office Action, namely storing documents. It is not seen how the transmission of a document or reception of a search request could be considered a thought or a computation. In view of the above, Applicants respectfully request withdrawal of the rejections under 35 U.S.C. §101.

VII.   Rejection of Claims Under 35 U.S.C. §102(b)

Claims 41, 43, 45, 47, 53 and 54 stand rejected under 35 U.S.C. §102(b) as allegedly being anticipated by U.S. Patent No. 5,619,709 to Caid et al. (hereinafter "CAID"). Applicants respectfully traverse the rejections based upon the arguments presented below. To be an "anticipation" rejection under 35 U.S.C. §102, the reference must teach every feature recited in the Applicants' claims. Rejections under 35 U.S.C. §102 are proper only when the claimed

subject matter is identically or inherently disclosed or described in the prior art. Applicants submit that the rejections of claims 41, 43, 45, 47, 53 and 54 under 35 U.S.C. §102(b) are improper because CAID fails to teach each and every feature recited in the claims.

Starting with independent claim 41, the claim recites:

> A method for displaying documents responsive to a received concept comprising:
>
> associating one or more documents with one or more concepts;
>
> <u>receiving a concept;</u>
>
> *determining one or more concepts close in meaning to the received concept;*
>
> <u>identifying one or more documents</u> **associated with** *the one or more concepts close in meaning to the received concept;* and
>
> transmitting for display the one or more documents associated with the one or more concepts close in meaning to the received concept (emphasis added).

With respect to the rejection of the above emphasized portions of claim 41, the Examiner cited CAID's creation of a query vector based upon a user's input of words, terms, records or documents (found at column 11 lines 5-15 and column 3 lines 8-12) and the identification of the most relevant summary vectors (found at column 11 lines 16-20). In CAID, a summary context vector is generated for each of a plurality of documents stored in the database. A summary context vector is representative of the overall content or meaning of a document and is determined based on relationships between meanings of information items such as words, paragraphs, queries, documents, images and the like. In order to retrieve a document, a user makes an inquiry using a set of words or terms, or by specifying one or more records (or documents) for which relevant records are sought. A query context vector is then created based upon the inquiry input by the user. A dot product operation is then performed between the query context vector and each of the summary context vectors. The results of the dot product operation are ranked such that the most relevant documents having the highest dot product magnitude are listed first. The Examiner is mistaken in attempting to correlate CAID's creation of a query

vector and identification of the most relevant summary vectors to the claimed elements of "determining one or more concepts close in meaning to the received concept" and "identifying one or more documents associated with the one or more concepts close in meaning to the received concept."

CAID's query context vector is generated based upon the set of words, terms, or records entered by the user. That entire vector is then compared to an entire summary context vector for possible matching documents. Also discussed above, CAID's identification of the most relevant summary vectors is carried out by performing a dot product operation between the query context vector and each of the summary context vectors. A dot product is a mathematical operation and does not involve *determining one or more concepts close in meaning to the received concept* and then identifying documents associated with the concepts close in meaning. CAID's identification of the most relevant summary vector, results in the identification of documents that relate to a vector related to the input terms.

Therefore, Applicants respectfully request withdrawal of the rejection of independent claim 41. Should the Examiner maintain the rejection, it is respectfully requested that the Examiner articulate in detail how CAID anticipates the feature of "determining one or more concepts close in meaning to the received concept" and "identifying one or more documents associated with the one or more concepts close in meaning to the received concept" in view of the above arguments.

Likewise, independent claim 45 recites "determining one or more concepts close in meaning to the received concept" and "identifying one or more documents associated with the one or more concepts close in meaning to the received concept" and thus is not anticipated by CAID for the same reasons. Independent claims 53 and 54 are system claims that recite "determining means for determining one or more concepts close in meaning to the received concept" and "identification means for identifying one or more documents associated with the one or more concepts close in meaning to the received concept." CAID also fails to disclose structure that performs the determining and identifying functions recited. Since claims 42-44 and 46-48 depend from claims 41 and 45 respectively, and since CAID does not disclose all of the limitations of claims 41 and 45, Applicants submit that claims 42-44 and 46-48 are patentable at least by virtue of their dependency from claims 41 and 45.

VIII. Rejection of Claims Under 35 U.S.C. §103(a)

Claims 16-18, 20-22, 29-31, 33-37, 39, 40, 49, 51 and 52 stand rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over CAID in view of U.S. Patent No. 6,078,866 to Buck et al. (hereinafter "BUCK"). Claims 19, 23-28, 32, 38 and 50 stand rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over CAID in view of BUCK and further in view of U.S. Patent No. 6,298,348 to Eldering (hereinafter "ELDERING"). Claims 42 and 46 stand rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over CAID in view of ELDERING. Claim 55 stands rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over CAID in view of the document entitled "Query Expansion Using Lexical-Semantic Relations by Voorhees (hereinafter "VOORHEES"). Claim 56 stands rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over CAID in view of VOORHEES and further in view of ELDERING.

A *prima facie* case of obviousness under 35 U.S.C. §103(a) requires three basic criteria to be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. Applicants respectfully submit that the rejections of claims 16-34, 35-40, 49-51 and 52 fail to meet the above criteria to establish a prima facie case of obviousness.

Starting with independent claim 16, the claim recites:

A method for displaying documents responsive to a

received concept comprising:

determining one or more concepts close in meaning to the

received concept;

identifying one or more documents related to the received

concept or one or more concepts close in meaning to the received

concept; and

transmitting for display the one or more documents based

on an order, the order corresponding to the relationship between

monetary values determined for each of the one or more

documents identified as related to the received concept or the concepts close in meaning to the received concept.

Claim 16 is allowable over the proposed combination of CAID and BUCK. In the rejection, it is acknowledged that CAID fails to disclose a method involving "transmitting for display the one or more documents based on an order, the order corresponding to the relationship between monetary values determined for each of the one or more documents identified as related to the received concept or the concepts close in meaning to the received concept." It was then alleged that it would have been obvious to have the order of returned documents correspond to a relationship between monetary values determined for each of the one or more documents identified as related to the received concept or concepts close in meaning to the received concept. It was further alleged that modifying CAID in view of BUCK would have been obvious to "allow content sponsors [] to influence the prominence given to their content when it is retrieved by a user as a result of a search,...and not through computation of a ranking based on an arbitrary or subjective determination by a search service," citing column 3 lines 52-59 of BUCK. Applicants disagree.

The teachings of BUCK and CAID do not lend themselves to be combined. BUCK is concerned with search results that are either based on simple index searches or categorized lists of documents. By way of example, consider a simple index search for the term "television." Each and every indexed document that is associated with the term "television" would be a result of the search. Further, each of the resulting documents would have equal relevance. Likewise, with respect to categorized lists of documents, all documents listed under any given category would have equal relevance. Accordingly, a mechanism is required to determine an order of presentation for the search results or documents listed in a category. BUCK's disclosure provides a mechanism for simple index searches or categorizations that determines an order of presentation for numerous equally relevant search results or category listings.

By contrast, CAID provides a complex search mechanism that *avoids having numerous equally relevant search results*. Instead, the resulting documents identified using CAID's complex search mechanism would each have an individually determined relevance. The individually determined relevancies for CAID's search results are used to determine the order of presentation for the search results. Thus, not only does CAID does not encounter the problem of

having numerous equally relevant search results, but to supplant CAID's presentation order mechanism with BUCK's presentation order mechanism would destroy CAID's teaching. Accordingly, BUCK and CAID do not lend themselves to be combined.

Furthermore, there is no suggestion to make the combination of BUCK and CAID. The section of BUCK cited in the rejection for motivation makes clear that BUCK is attempting to overcome arbitrary or subjective determination by a search service. In order to achieve this objective, BUCK enables a subscriber to control the ranking of their web site by allowing the subscriber to associate a monetary amount with specific keywords and/or categories chosen by the subscriber. By allowing the subscriber to choose the specific keywords and/or categories, BUCK prevents a search service from making a computation of a ranking based on an arbitrary or subjective determination by a search service. CAID, on the other hand, identifies documents based upon a closeness of meanings to an inquiry, wherein the closeness of meanings is determined by the search provider. Accordingly, BUCK teaches way from being combined with CAID because BUCK is looking to avoid having a search service make a computation of a ranking based on an arbitrary or subjective determination. Thus, the modification of CAID per BUCK would result in a system in which a subscriber's website may be listed in an order that is based on a determination of a closeness in meaning determined by the search service and not on the exact keyword or category identified by the subscriber. Thus, the combination results in the very arbitrariness or subjectiveness by a search service that BUCK is trying to overcome. Accordingly, not only is there no motivation for the combination of CAID and BUCK, but BUCK teaches way from being combined with CAID.

Therefore, in view of the above, Applicants assert that claim 16 is allowable over CAID and BUCK and respectfully request withdrawal of the rejection of independent claim 16. Should the Examiner maintain the rejection, it is respectfully requested that the Examiner address in detail the above arguments.

Claim 49 recites "transmission means for transmitting for display the one or more documents based on an order, the order corresponding to the relationship between monetary values determined for each of the one or more documents identified as related to the received concept or the concepts close in meaning to the received concept." This language recites the

element of claim 16 as the function of a means plus function. For the reasons discussed above relative to claim 16, claim 49 is also allowable.

Independent claim 29 recites "transmitting for display information from the one or more target data elements identified based on an order, the order corresponding to a relationship between monetary values determined for each of the one or more target data elements relative to the at least one concept." Claim 35 recites "transmitting for display information from the target data elements identified based on an order, the order corresponding to a relationship between monetary values determined for each of the target data elements relative to the concept." Independent claim 51 recites "transmission means for transmitting for display information from the target data elements identified based on an order, the order corresponding to a relationship between monetary values determined for each of the target data elements relative to the received concept." Claim 52 recites "transmission means for transmitting display information from the target data elements identified based on an order, the order corresponding to a relationship between monetary values determined for each of the target data elements relative to the concept." Again, the Office acknowledges that CAID fails to disclose these features and relies on the disclosure of BUCK. Again, as discussed above, the proposed modification of CAID in view of BUCK in the rejections of each of these claims is improper. Accordingly, independent claims 29, 35, 49, 51 and 52 are allowable over the combination of CAID and BUCK for similar reasons to those discussed above.

Therefore, independent claims 16, 29, 35, 49, 51 and 52 are allowable over the combination of CAID and BUCK and withdrawal of the rejections is earnestly solicited. Furthermore, since dependent claims 17-22, 30-34, 36-40 depend upon independent claims 16, 29 and 35 respectively, dependent claims 17-22, 30-34, 36-40 are patentable at least by virtue of their dependency from claims 16, 29 and 35. Therefore, Applicants respectfully request that the rejections of claims 16-22, 29-34, 35-40, 49, 51 and 52 under 35 U.S.C. §103(a) be reconsidered and withdrawn.

Regarding independent claims 23 and 50, the claims recite similar features to those discussed above with respect to both claims 16 and 41. Accordingly, CAID fails to teach or disclose the above features. Further, the secondary references, BUCK and ELDERING, fail to cure the deficiencies of CAID. In addition, CAID and BUCK do not lend themselves to be

combined and there is no motivation for the combination. Accordingly, claims 23 and 50 are therefore allowable for similar reasons to those discussed above with respect to both claims 16 and 41. Furthermore, since claims 24-28 depends upon claim 23, claims 24-28 are patentable at least by virtue of their dependency from claim 23. Therefore, Applicants respectfully request that the rejections of claims 23-28 and 50 under 35 U.S.C. §103(a) be reconsidered and withdrawn.

Regarding independent claim 55, Applicants assert that it is allowable over the proposed combination of CAID and VOORHEES. Independent claim 55 recites:

A method of generating a search result in response to a

search request comprising:

organizing concepts according to their meaning into a

lexicon of predefined known relationships between the concepts,

said lexicon defining elements of a semantic space;

receiving the search request and associating said search

request with a first set of concepts from said lexicon;

relating the search request to a larger set of search terms,

wherein terms in the larger set of search terms are close in meaning

to the search request based on semantic relationships defined by

the lexicon; and

searching a target data set for elements close in meaning to

the larger set of search terms based on the semantic relationships.

In the rejection of independent claim 55, it was acknowledges that CAID fails to disclose a method wherein search terms are expanded to include search terms that are close in meaning to the original search request based on predetermined semantic relationships defined by the lexicon. It is then alleged that it would have been obvious to expand search terms based on closeness of meaning in the search request based on semantic relationships. It is further alleged that modifying CAID in view of VOORHEES would have been obvious to "ease[] the user's burden when selecting query words," citing to the Introduction in Voorhees. Applicants disagree.

The very Introduction in VOORHEES indicates that VOORHEES is concerned with problems associated with retrieval systems that use word matching as a basis for retrieval. See

Introduction, page 1, first sentence. In other words, when the retrieval system focuses on retrieving content based on its inclusion of a specific word or combination of words, VOORHEES teaches that automatically expanding the words provided by the user provides an advantage to the user. So, by example, if the user put in the word "dog," the results might include those pages that include the word "dog," but also those that include the word "dogs" due to semantic expansion of "dog" to "dogs."

There is no suggestion that such a system would have any applicability to a meaning-based retrieval system such as CAID. Specifically, CAID's approach to retrieval is to assign documents a meaning through use of a vector and then generating another vector from an input query to determine relative connection between the vector of the input query and the vectors of various documents stored to determine if the document's meaning is related to the input. See CAID, col. 2, lines 48-65 and col. 3, lines 8-16. Accordingly, CAID immediately takes an input query and generates a "meaning" rather than focusing on the exact words input. Thus, the reason given by VOORHEES for using term expansion is not a problem that CAID recognizes. Moreover, by its Introduction, VOORHEES itself is limited to term-based retrieval and not meaning based retrieval. Thus, one of ordinary skill in the art of the present invention very likely would not have even looked to VOORHEES. And, even if one did look to VOORHEES, one would have been instructed by VOORHEES that its expansion was useful only for term-based retrieval systems and not the meaning-based retrieval systems of CAID. Finally, neither CAID nor VOORHEES provide any suggestion how one might blend all of the various concepts in VOORHEES or CAID to yield claim 55's features. Accordingly, claim 55 is allowable over the art cited in the Office Action. Furthermore, since claim 56 depends upon claim 55, claim 56 is patentable at least by virtue of its dependency from claim 55. Therefore, Applicants respectfully request that the rejection of claim 56 under 35 U.S.C. §103(a) be reconsidered and withdrawn.
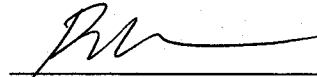
IX. ᵢ **Conclusion**

In view of the above, it is respectfully submitted that this application and all pending claims are in condition for allowance and notice to that effect is respectfully requested. Should the Examiner have any questions, the Examiner is encouraged to contact the undersigned at the telephone number indicated below.

It is believed that no additional fees are due in connection with filing this amendment. However, the Commissioner is hereby authorized to treat any current or future reply, requiring a petition for an extension of time for its timely submission as incorporating a petition for extension of time for the appropriate length of time. Applicants also authorize the Commissioner to charge any additional fees to the undersigned's Deposit Account No. 50-0206.

Respectfully submitted,

Date: April 27, 2007

Brian M. Buroker
Registration No. 39,125

Hunton & Williams LLP
Intellectual Property Department
1900 K Street, N.W., Suite 1200
Washington, D.C. 20006-1109
Main: (202) 955-1500
Direct: (202) 778-2265